



Georgia Experiment Station

of the University System of Georgia

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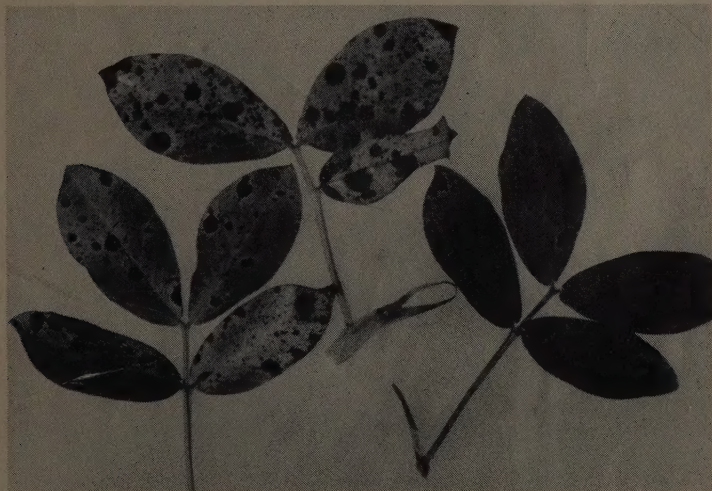
EXPERIMENT, GEORGIA

INCREASED YIELDS OF SPANISH PEANUTS OBTAINED BY DUSTING

by

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The demand for increased acreages of peanuts for oil emphasizes the importance for more economical production through increased yields per acre. A maximum number of pounds of nuts per acre can be produced only when enough leaves are retained by the plants to adequately nourish the seeds as they are being formed in the pods. The disease commonly known as leaf spot causes premature defoliation of Spanish peanuts, beginning in late July and continuing until 80-100 per cent of the leaves are shed by the time the crop is ready for harvest.



Spanish peanut vine showing leafspots caused by *Cercospora arachidicola*.—Sycamore, Georgia, August, 1941.

The damage done by leaf spots is frequently regarded as an indication of maturity rather than as causing lowered yields. Each branch of the Spanish peanut plant produces from 12-14 fully developed leaves during the growing season, at least 50 per cent of which should be included in the hay, when the crop is mature.

The cooperative tests conducted over a period of five years by the Georgia Experiment Station, the Coastal Plain Experiment Station, the Georgia Extension Service, the Freeport Sulphur Company, and the Tennessee Corporation have shown that substantial increases in yields of nuts and hay may be obtained by the use of dusting sulphur to control the spread of leaf spot. Other dusting materials have been tested, several of which are promising but should be given further trial before making recommendations.

The average acre increase in pounds of peanuts in the pod obtained from all dusting tests in four localities in three South Georgia counties during 1941 is given in the following table.

INCREASE PER ACRE OBTAINED IN 1941 BY DUSTING TO CONTROL LEAF SPOT ON SPANISH PEANUTS AT FOUR LOCATIONS

DUST MATERIAL	INCREASE PER ACRE FROM DUSTING				
	TY TY	SYCAMORE	TIFTON	ARABI	AVERAGE
Sulphur	<i>pounds</i> 543.8	<i>pounds</i> 412.5	<i>pounds</i> 317.8	<i>pounds</i> 328.4	400.6
Copper*-sulphur 10-90	642.8	347.1	400.8		463.6
Copper*-sulphur-clay 10-30-60	505.6	363.1	400.8		423.2
Copper*-wheat flour-clay 10-10-80 ..	481.4	248.3		33.0	254.2
Red copper oxide-clay** 10-90	516.9	447.3	368.1		444.1

*Basic copper sulphate.

**Contributed by Rohm and Haas Company.

Two broadcast applications of a mixture of sulphur and gypsum in the proportion by weight of 1-3, gave an increase of 222.9 pounds per acre in a test made in Crisp county in 1941.

Copper sulphur 10-90 has been tested in two successive seasons and found to be a more effective fungicide than dusting sulphur, as is indicated by a greater reduction in number of spots formed on the leaves and the greater number of leaves retained by the plants at the time of harvest. It is probable that this material will be somewhat more expensive than dusting sulphur because of the

additional cost of basic copper sulphate. Whether the yield increases will be sufficiently higher to compensate for the greater cost of the mixture has not been determined from the data now available.

SUMMARY OF RESULTS FROM DUSTING TESTS ON SPANISH PEANUTS
1937-1941

MATERIAL	YEARS TESTED	No. TESTS	AVERAGE YIELD PER ACRE		AVERAGE INCREASE PER ACRE
			DUSTED	CHECK	
	<i>No.</i>	<i>No.</i>	<i>pounds</i>	<i>pounds</i>	<i>pounds</i>
Sulphur dust.....	5	43	1,656.0	1,329.6	326.4
Copper-sulphur 10-90.....	2	5	1,663.4	1,236.5	426.9
Copper-sulphur-clay 10-30-60.....	1	3	1,578.3	1,155.1	423.2
Copper-wheat flour-clay 10-10-80..	2	4	1,433.2	1,138.0	295.2
Red-copper-oxide-clay 10-90.....	1	3	1,599.2	1,155.1	444.1
Sulphur gypsum 1-3.....	1	1	1,387.0	1,164.1	222.9

Recommendations for the use of dusts for the control of leaf-spotting of Spanish peanuts are given below in tabular form. All suggestions apply equally for all dust materials.

DIRECTIONS FOR DUSTING SPANISH PEANUTS.

Dusting material	1. Conditioned dusting sulphur 93% through 325 mesh, or 2. Copper-sulphur 10-90
Time to begin dusting	When the first spots appear on the basal leaves; usually 60-65 days after planting or from June 15 to July 1.
Number of applications	Three unless the first application is repeated because of rain, in which case 4 may be required for adequate protection.
Interval between applications	Two weeks unless rain within 24 hours necessitates repeating the first application after 7-10 days.
Amount of sulphur per application	15-20 pounds per acre depending on the size of the plants and the efficiency of the dusting equipment.
Equipment needed	Any good traction or power duster may be used.
Cost of material	1. Sulphur \$3.00-\$3.50 hundred pounds. 2. Undetermined.

Sulphur dust may be used to control leaf spot of North Carolina Runner peanuts. The first dust is usually applied a week or two later than for Spanish peanuts and four applications are required for the best results. Otherwise the recommendations are similar to those for Spanish.

It is suggested that farmers interested in dusting their peanut crop make arrangements for obtaining materials as early as possible to insure delivery.